



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,505	09/13/2004	Takahisa Kaneko	121107	6446

25944 7590 05/15/2006

OLIFF & BERRIDGE, PLC  
P.O. BOX 19928  
ALEXANDRIA, VA 22320

EXAMINER

LEYSON, JOSEPH S

ART UNIT PAPER NUMBER

1722

DATE MAILED: 05/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/507,505

Applicant(s)

KANEKO ET AL.

Examiner

Joseph Leyson

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/13/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: b, 6, 15, 16, 18, 22, and 24. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance. **No new matter should be added.**

### *Specification*

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of **50 to 150** words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

Art Unit: 1722

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it contains more than 150 words. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 9, 10 and 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 9, 10 and 17 recite a connection area ratio of the back hole and the cell block being 35 to 65% **of the surface area of the plate**. However, the definition of the connection area ratio in the specification (p. 6, lines 2-8) does NOT even include the surface area of the plate. The examiner suggests deleting "of the surface area of the plate" in claim 9, and deleting "of a surface area of the plate" in claim 17.

Claim 10 recites a die height being 2 to 5 mm. However, as understood from the rest of the specification (i.e., p. 5, lines 23-27), the height of the cell blocks, NOT the die, is 2 to 5 mm. Note that if the die height were 2 mm, then the cell block height of 2

Art Unit: 1722

to 5 mm disclosed by Applicant could NOT be possible. The examiner suggest changing "die" to --cell blocks-- in claim 10.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 9, 10 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 9, 10 and 17 are incorrect. As understood from the rest of the specification (i.e., p. 6, lines 2-8), the connection area ratio relates the cell block area to the area of the back hole portion related to the cell block area, and is NOT related to the surface area of the plate. The examiner suggests deleting "of the surface area of the plate" in claim 9, and deleting "of a surface area of the plate" in claim 17.

Claim 10 is incorrect. As understood from the rest of the specification (i.e., p. 5, lines 23-27), the height of the cell blocks, NOT the die, is 2 to 5 mm. The examiner suggest changing "die" to --cell blocks-- in claim 10.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

Art Unit: 1722

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bagley (U.S. Patent 3,790,654) in view of Inoue et al. (U.S. Patent 4,834,640) and Comstock (U.S. Patent 1,973,428).

Bagley (U.S. Patent 3,790,654) discloses a die for forming a honeycomb body, the die includes plate 12 having a predetermined size and provided with a plurality of cell blocks 28 defined by a plurality of groovy slits 24 on a front face thereof and a plurality of back holes 18 on a back face thereof, each hole 18 being communicatively connected with a predetermined slit 24, the plate 12 being made of tungsten carbide (i.e., col. 5, lines 35-45), and a slit height (cell block height) of 0.15 in (3.81 mm) (col. 6, lines 14-17). Note that figure 4 of Bagley (U.S. Patent 3,790,654) shows and discloses (i.e., col. 6, lines 12-25) that the back holes 18 intersect the groovy slits 24 adjacent every other intersection of the slits 24 (which is similar to fig. 2 of the instant disclosure). Bagley (U.S. Patent 3,790,654) does not disclose a connection area ratio of the back hole and the cell block being 35 to 65%. However, Bagley (U.S. Patent 3,790,654) does disclose that the die construction should provide the required strength and rigidity to withstand extrusion pressures without failure or deleterious deformation (i.e., col. 2,

Art Unit: 1722

lines 65-70) , that dimensions of the slits, back holes, and cell blocks provide flow control of the material to be extruded (i.e., flow resistance, lateral flow, amount of flow) (i.e., col. 2, lines 45-65; col. 3, line 72, to col. 4, line 20; col. 5, lines 60-68), that the intersection of the back holes 18 with the slits 24 and cell blocks 28 is relatively large to provide for lateral flow so as to completely fill the lateral extent of the slots prior to discharge (col. 3, line 72 to col. 4, line 7) , and that dimensions of the slits, back holes, and cell blocks will vary with the physical properties of the material to be extruded (col. 6, lines 3-11). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the die of Bagley (U.S. Patent 3,790,654) with a connection area ratio of the back hole and the cell block of 35 to 65% because such a dimensional relationship would have been found in view of the teachings of Bagley (U.S. Patent 3,790,654) to control the flow of the material to be extruded in view of the physical properties of the material while still maintaining the required strength and rigidity of the die to withstand extrusion pressures without failure or deleterious deformation. Furthermore, such a dimensional relationship would still enable the die of Bagley (U.S. Patent 3,790,654) to form a honeycomb body. Where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device, In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). Bagley (U.S. Patent 3,790,654) does not further disclose the tungsten carbide with an iron group metal

Art Unit: 1722

binder. Inoue et al. (U.S. Patent 4,834,640) disclose a die for forming a honeycomb body (i.e., fig. 1) and that cemented carbide such as tungsten carbide is well known in the art as a high wear resistance material (i.e., abstract; col. 1, lines 44-63). Comstock (U.S. Patent 1,973,428) discloses a cemented carbide material being formed by compacting, followed by sintering at high temperature, metal carbide powder of transition metal element series (tungsten) with an iron group metal binder having toughness (cobalt, iron or nickel) (p. 1, lines 33-96). It would have been further obvious to one of ordinary skill in the art, at the time the invention was made, to modify the plate of Bagley (U.S. Patent 3,790,654) to be made with the cemented carbide material of Comstock (U.S. Patent 1,973,428) because Bagley (U.S. Patent 3,790,654) discloses that the plate can be made of tungsten carbide and because cemented carbides such as tungsten carbide are well known materials in the art and would provide high wear resistance as disclosed by Inoue et al. (U.S. Patent 4,834,640).

11. Claims 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bagley (U.S. Patent 3,790,654) in view of Inoue et al. (U.S. Patent 4,834,640) and Comstock (U.S. Patent 1,973,428) as applied to claims 9 and 10 above, and further in view of Cocchetto et al. (U.S. Patent 5,219,509).

Inoue et al. (U.S. Patent 4,834,640) further disclose a jig including a die 1 and a holding plate 2 fixing a profile and size of the honeycomb body extruded from the die for forming the honeycomb body. The portions of holding plate 2 which contact the extrusion material are made of cemented carbide such as tungsten carbide for high wear resistance (i.e., col. 1, lines 48-63); col. 2, lines 35-54).



Cocchetto et al. (U.S. Patent 5,219,509) disclose a jig for forming a honeycomb body including a die 22, a holding plate 24, 25 fixing a profile and size of the honeycomb body extruded from the die for forming the honeycomb body and a back holding plate 26, 28 controlling an amount of an extrusion material flowing into the back holes uniformly (i.e., col. 5, lines 31-61; col. 8, line 64, to col. 9, line 23).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the die with the holding plate of Inoue et al. (U.S. Patent 4,834,640) because such a modification would fix a profile and size of the honeycomb body extruded from the die and would provide high wear resistance, as disclosed by Inoue et al. (U.S. Patent 4,834,640), and to further modify the die with a back holding plate because such a modification would control the amount of extrusion material flowing into the back holes as disclosed by Cocchetto et al. (U.S. Patent 5,219,509). Furthermore, it would have been further obvious to an artisan of ordinary skill to make the portions of the back holding plate which contact the extrusion material to be made from cemented carbide because Inoue et al. (U.S. Patent 4,834,640) teaches that portions which contact extrusion material can be made of cemented carbide for high wear resistance.

12. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese reference (2000-326318) in view of Bagley (U.S. Patent 3,790,654).

Japanese reference (2000-326318) disclose a die for forming a honeycomb body including a plate having a predetermined size and provided with a plurality of cell blocks (see figures) defined by a plurality of groovy slits 15 on a front face thereof, a

Art Unit: 1722

plurality of back holes 131 on a back face thereof, each hole 131 being communicatively connected with a predetermined slit 15, and the plate being made of a cemented carbide material having wear resistance, the cemented carbide material being formed by compacting, followed by sintering at high temperature, metal carbide powder of transition metal element series with an iron group metal binder having toughness (i.e., col. 8, paragraphs 35-37). However, Japanese reference (2000-326318) does not disclose a connection area ratio of the back hole and the cell block being 35 to 65% or a cell block height of the die being 2 to 5 mm.

Bagley (U.S. Patent 3,790,654) discloses a die for forming a honeycomb body, the die includes plate 12 having a predetermined size and provided with a plurality of cell blocks 28 defined by a plurality of groovy slits 24 on a front face thereof and a plurality of back holes 18 on a back face thereof, each hole 18 being communicatively connected with a predetermined slit 24, the plate 12 being made of tungsten carbide (i.e., col. 5, lines 35-45), and a slit height (cell block height) of 0.15 in (3.81 mm) (col. 6, lines 14-17). Note that figure 4 of Bagley (U.S. Patent 3,790,654) shows and discloses (i.e., col. 6, lines 12-25) that the back holes 18 intersect the groovy slits 24 adjacent every other intersection of the slits 24 (which is similar to fig. 2 of the instant disclosure). Bagley (U.S. Patent 3,790,654) further discloses that die construction should provide the required strength and rigidity to withstand extrusion pressures without failure or deleterious deformation (i.e., col. 2, lines 65-70), that dimensions of the slits, back holes, and cell blocks provide flow control of the material to be extruded (i.e., flow resistance, lateral flow, amount of flow) (i.e., col. 2, lines 45-65; col. 3, line 72, to col. 4,

Art Unit: 1722

line 20; col. 5, lines 60-68), that the intersection of the back holes 18 with the slits 24 and cell blocks 28 is relatively large to provide for lateral flow so as to completely fill the lateral extent of the slots prior to discharge (col. 3, line 72 to col. 4, line 7) , and that dimensions of the slits, back holes, and cell blocks will vary with the physical properties of the material to be extruded (col. 6, lines 3-11).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the die of Japanese reference (2000-326318) with a connection area ratio of the back hole and the cell block of 35 to 65% because such a dimensional relationship would have been found in view of the teachings of Bagley (U.S. Patent 3,790,654) to control the flow of the material to be extruded in view of the physical properties of the material while still maintaining the required strength and rigidity of the die to withstand extrusion pressures without failure or deleterious deformation. Furthermore, such a dimensional relationship would still enable the die of Japanese reference (2000-326318) to form a honeycomb body. Where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device, In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). It would have been further obvious to an artisan of ordinary skill to modify the cell block height (slit height) of the die of Japanese reference (2000-326318) to be 3.81 mm because such a height is well known and conventional in the art as disclosed by Bagley (U.S. Patent

3,790,654) and would provide a configuration for the cell block height known in the art to be operable.

13. Claims 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese reference (2000-326318) in view of Bagley (U.S. Patent 3,790,654) as applied to claims 9 and 10 above, and further in view of Inoue et al. (U.S. Patent 4,834,640) and Cocchetto et al. (U.S. Patent 5,219,509).

Inoue et al. (U.S. Patent 4,834,640) disclose a jig including a die 1 and a holding plate 2 fixing a profile and size of the honeycomb body extruded from the die for forming the honeycomb body. The portions of holding plate 2 which contact the extrusion material are made of cemented carbide such as tungsten carbide for high wear resistance (i.e., col. 1, lines 48-63; col. 2, lines 35-54).

Cocchetto et al. (U.S. Patent 5,219,509) disclose a jig for forming a honeycomb body including a die 22, a holding plate 24, 25 fixing a profile and size of the honeycomb body extruded from the die for forming the honeycomb body and a back holding plate 26, 28 controlling an amount of an extrusion material flowing into the back holes uniformly (i.e., col. 5, lines 31-61; col. 8, line 64, to col. 9, line 23).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the die with the holding plate of Inoue et al. (U.S. Patent 4,834,640) because such a modification would fix a profile and size of the honeycomb body extruded from the die and would provide high wear resistance, as disclosed by Inoue et al. (U.S. Patent 4,834,640), and to further modify the die with a back holding plate because such a modification would control the amount of extrusion

Art Unit: 1722

material flowing into the back holes as disclosed by Cocchetto et al. (U.S. Patent 5,219,509). Furthermore, it would have been further obvious to an artisan of ordinary skill to make the portions of the back holding plate which contact the extrusion material to be made from cemented carbide because Inoue et al. (U.S. Patent 4,834,640) teaches that portions which contact extrusion material can be made of cemented carbide for high wear resistance.

### ***Double Patenting***

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 9 and 10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over either claims 9 and 10 of copending Application No. 10/507,413 or claim 2 of copending Application No. 11/186,970 in view of Bagley (U.S. Patent 3,790,654).

Claims 9 and 10 of copending Application No. 10/507,413 and claim 2 of copending Application No. 11/186,970 each disclose a die for forming a honeycomb body including a plurality of cell blocks defined by a plurality of groovy slits, a plurality of back holes, each hole being communicatively connected with a slit, and the die being made of a cemented carbide material having wear resistance, the cemented carbide material being formed by compacting, followed by sintering at high temperature, metal carbide powder of transition metal element series with an iron group metal binder. However, neither claims 9 and 10 of copending Application No. 10/507,413 nor claim 2 of copending Application No. 11/186,970 disclose a connection area ratio of the back hole and the cell block being 35 to 65% or a cell block height of the die being 2 to 5 mm.

Bagley (U.S. Patent 3,790,654) discloses a die for forming a honeycomb body; the die includes plate 12 having a predetermined size and provided with a plurality of cell blocks 28 defined by a plurality of groovy slits 24 on a front face thereof and a plurality of back holes 18 on a back face thereof, each hole 18 being communicatively connected with a predetermined slit 24, the plate 12 being made of tungsten carbide (i.e., col. 5, lines 35-45), and a slit height (cell block height) of 0.15 in (3.81 mm) (col. 6, lines 14-17). Note that figure 4 of Bagley (U.S. Patent 3,790,654) shows and discloses (i.e., col. 6, lines 12-25) that the back holes 18 intersect the groovy slits 24 adjacent every other intersection of the slits 24 (which is similar to fig. 2 of the instant disclosure). Bagley (U.S. Patent 3,790,654) further discloses that die construction should provide the required strength and rigidity to withstand extrusion pressures without failure or deleterious deformation (i.e., col. 2, lines 65-70), that dimensions of the slits, back

Art Unit: 1722

holes, and cell blocks provide flow control of the material to be extruded (i.e., flow resistance, lateral flow, amount of flow) (i.e., col. 2, lines 45-65; col. 3, line 72, to col. 4, line 20; col. 5, lines 60-68), that the intersection of the back holes 18 with the slits 24 and cell blocks 28 is relatively large to provide for lateral flow so as to completely fill the lateral extent of the slots prior to discharge (col. 3, line 72 to col. 4, line 7) , and that dimensions of the slits, back holes, and cell blocks will vary with the physical properties of the material to be extruded (col. 6, lines 3-11).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the die of either claims 9 and 10 of copending Application No. 10/507,413 or claim 2 of copending Application No. 11/186,970 with a connection area ratio of the back hole and the cell block of 35 to 65% because such a dimensional relationship would have been found in view of the teachings of Bagley (U.S. Patent 3,790,654) to control the flow of the material to be extruded in view of the physical properties of the material while still maintaining the required strength and rigidity of the die to withstand extrusion pressures without failure or deleterious deformation. Furthermore, such a dimensional relationship would still enable the die of either claims 9 and 10 of copending Application No. 10/507,413 or claim 2 of copending Application No. 11/186,970 to form a honeycomb body. Where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device, In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed.

Art Unit: 1722

Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). It would have been further obvious to an artisan of ordinary skill to modify the cell block height (slit height) of the die of either claims 9 and 10 of copending Application No. 10/507,413 or claim 2 of copending Application No. 11/186,970 to be 3.81 mm because such a height is well known and conventional in the art as disclosed by Bagley (U.S. Patent 3,790,654) and would provide a configuration for the cell block height known in the art to be operable.

This is a provisional obviousness-type double patenting rejection.

16. Claims 11-18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over either claims 9 and 10 of copending Application No. 10/507,413 or claim 2 of copending Application No. 11/186,970 in view of Bagley (U.S. Patent 3,790,654) as applied to claims 9 and 10 above, and further in view of Inoue et al. (U.S. Patent 4,834,640) and Cocchetto et al. (U.S. Patent 5,219,509).

Inoue et al. (U.S. Patent 4,834,640) disclose a jig including a die 1 and a holding plate 2 fixing a profile and size of the honeycomb body extruded from the die for forming the honeycomb body. The portions of holding plate 2 which contact the extrusion material are made of cemented carbide such as tungsten carbide for high wear resistance (i.e., col. 1, lines 48-63); col. 2, lines 35-54).

Cocchetto et al. (U.S. Patent 5,219,509) disclose a jig for forming a honeycomb body including a die 22, a holding plate 24, 25 fixing a profile and size of the honeycomb body extruded from the die for forming the honeycomb body and a back



Art Unit: 1722

holding plate 26, 28 controlling an amount of an extrusion material flowing into the back holes uniformly (i.e., col. 5, lines 31-61; col. 8, line 64, to col. 9, line 23).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the die with the holding plate of Inoue et al. (U.S. Patent 4,834,640) because such a modification would fix a profile and size of the honeycomb body extruded from the die and would provide high wear resistance, as disclosed by Inoue et al. (U.S. Patent 4,834,640), and to further modify the die with a back holding plate because such a modification would control the amount of extrusion material flowing into the back holes as disclosed by Cocchetto et al. (U.S. Patent 5,219,509). Furthermore, it would have been further obvious to an artisan of ordinary skill to make the portions of the back holding plate which contact the extrusion material to be made from cemented carbide because Inoue et al. (U.S. Patent 4,834,640) teaches that portions which contact extrusion material can be made of cemented carbide for high wear resistance.

This is a provisional obviousness-type double patenting rejection.

***Priority of Invention***

17. Claims 9-18 are directed to an invention not patentably distinct from claim 2 of commonly assigned 11/186,970. Specifically, claims 9-18 would have been obvious to an artisan of ordinary skill in view of claim 2 of commonly assigned 11/186,970 because such claim 2 discloses all the recitations of instant claims 9-18 except for dimensions and for apparatus elements which are obvious and/or well known in the art as disclosed in the double patenting section above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned 11/186,970, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

### ***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bagley (U.S. Patent 3,905,743), Lentz (U.S. Patent 4,465,652), Ozaki et al. (U.S. Patent 4,687,433), Bagley (U.S. Patent 5,286,323), Bagley (U.S. Patent 5,308,556), Lipp (U.S. Patent 5,308,568), Kragle et al. (U.S. Patent 5,702,659), Suzuki (U.S. Patent 6,193,497) and Seely (U.S. Patent 6,302,679) disclose dies made of carbides.

Art Unit: 1722

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Leyson whose telephone number is (571) 272-5061. The examiner can normally be reached on M-F 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gupta Yogendra can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JL

  
ROBERT DAVIS  
PRIMARY EXAMINER  
GROUP 1300-1700

5/11/06